STEREO GRAPHIC EQUALIZER

GE89/5020

SERVICE MANUAL

KENWOOD

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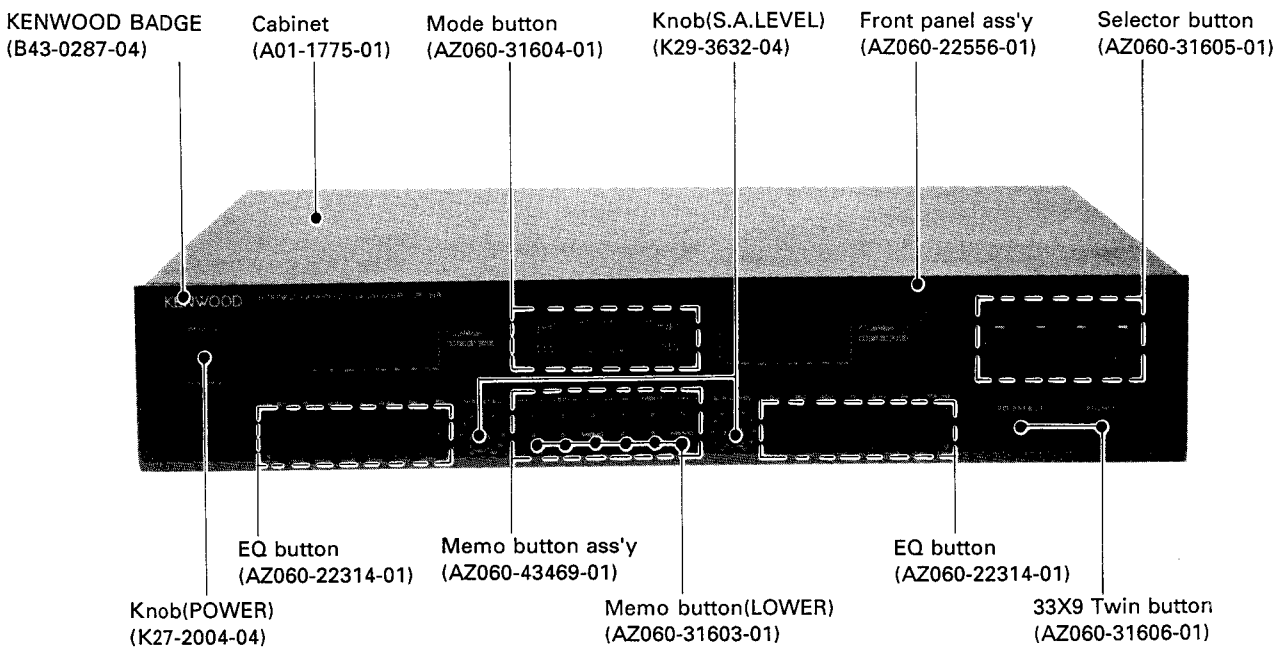
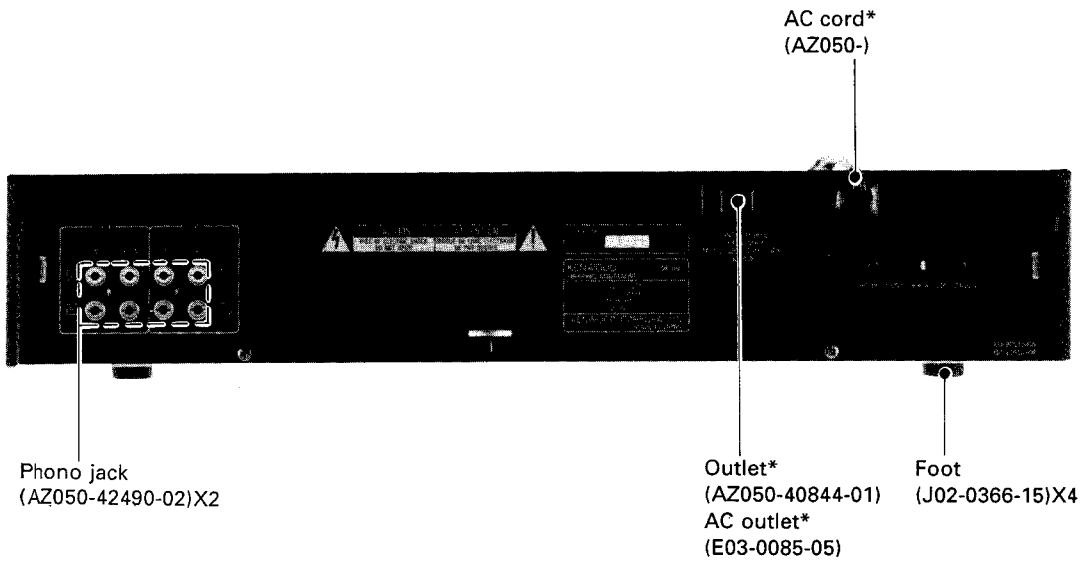
B51-4109-00 (O) 3351

[GE-89]

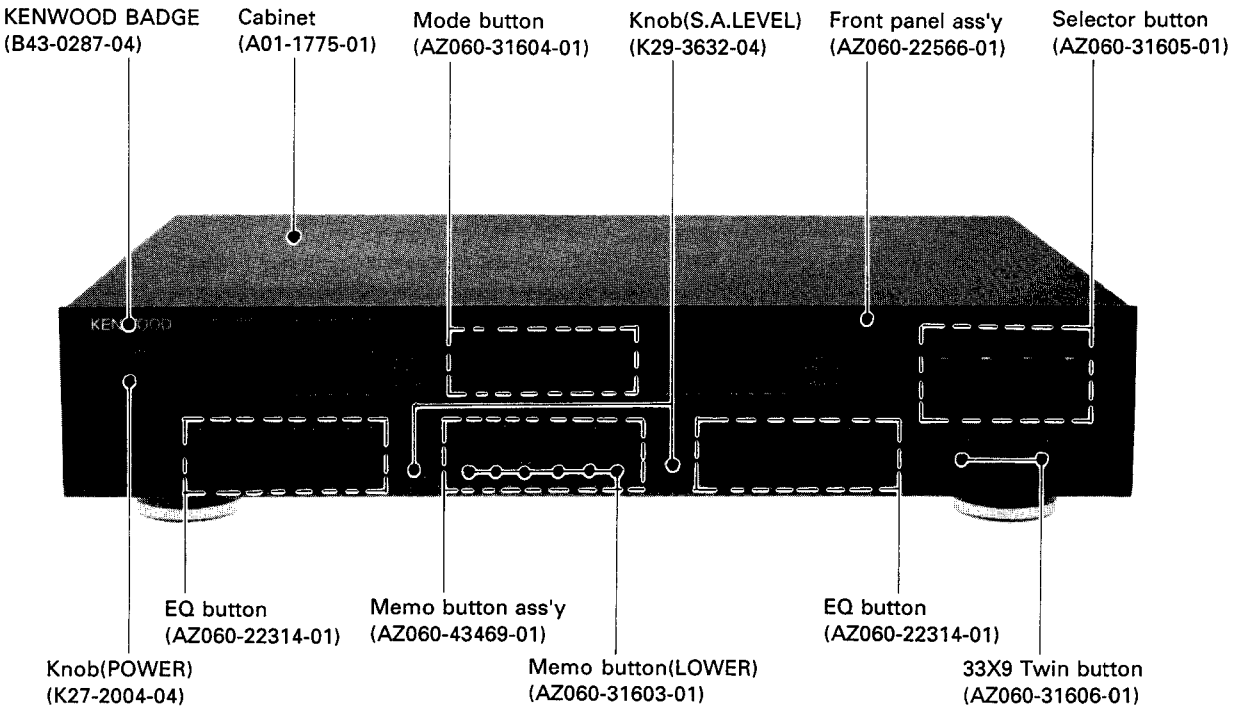


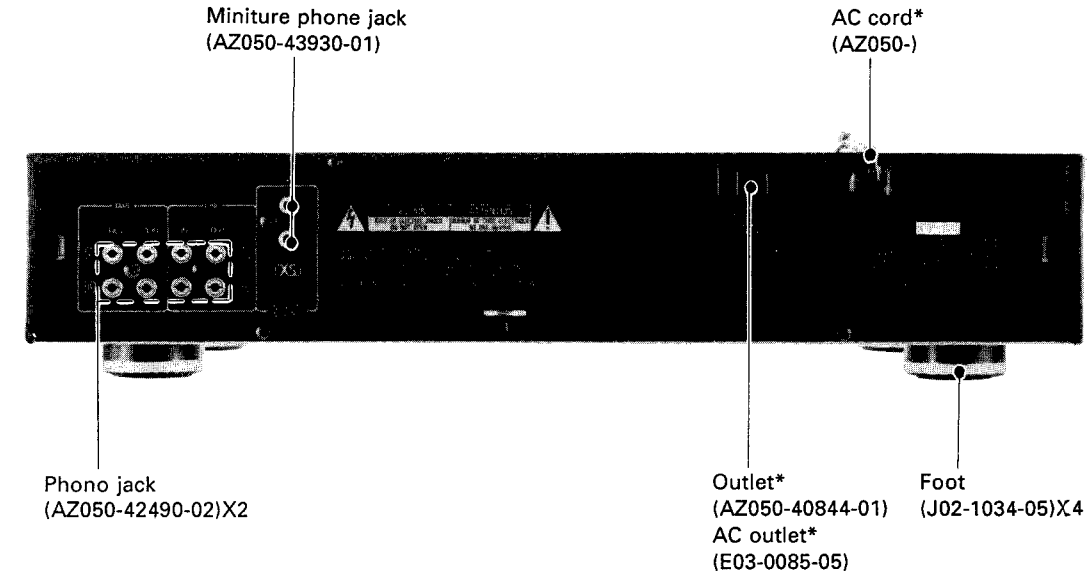


***Refer to parts list on page 20.**

GE-89/5020

[GE-5020]



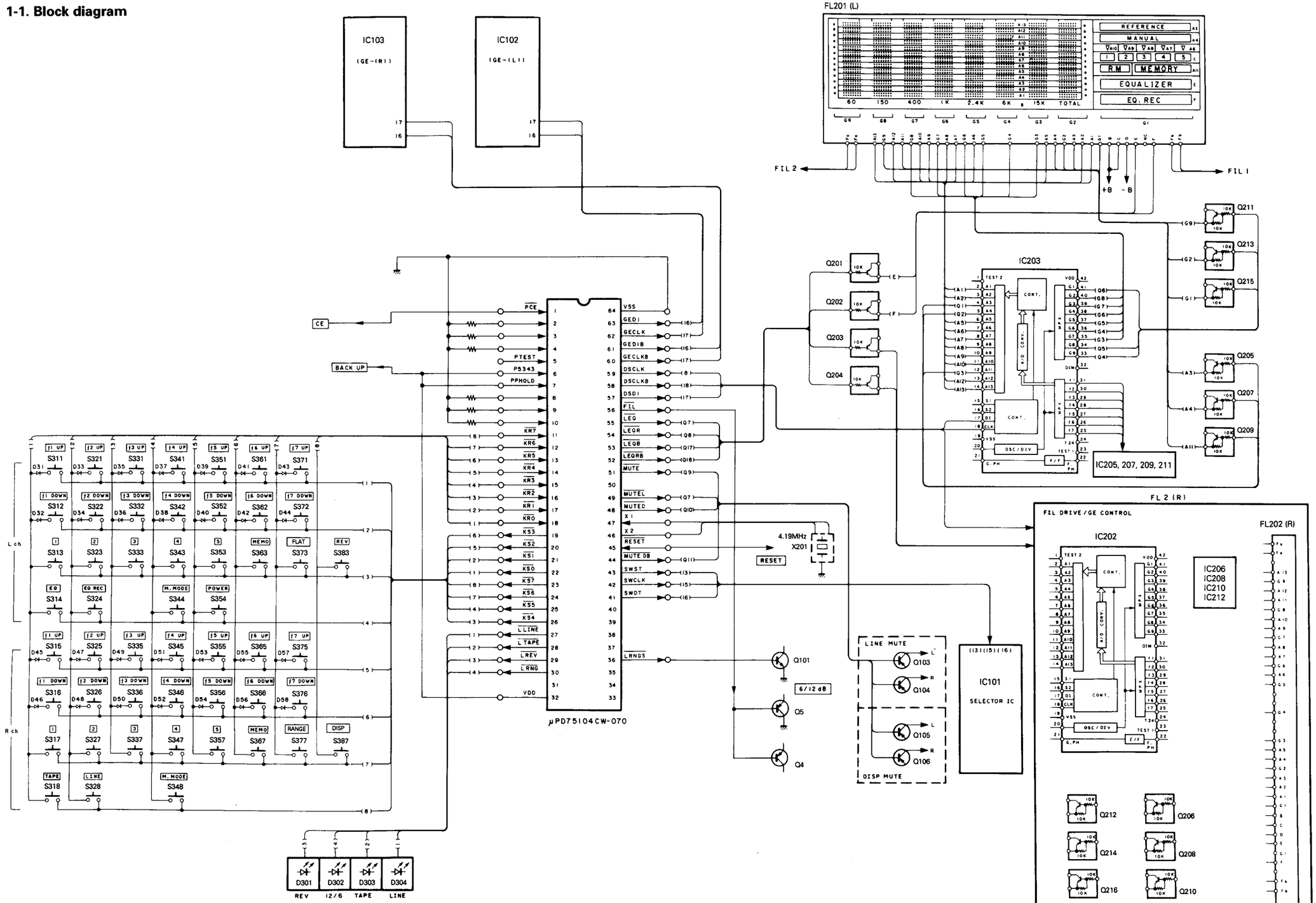


***Refer to parts list on page 20.**

CIRCUIT DESCRIPTION

1. Microprocessor μPD75104CW-070 (Switch unit : IC201)

1-1. Block diagram



1-2. Expl

Pin No.
18
17
16
15
4
3
2
1
14
13
12
11
8
7
6
5
9
10
36
35
34
33
40
39
38
37
44
43
42
41
51
50
49
48

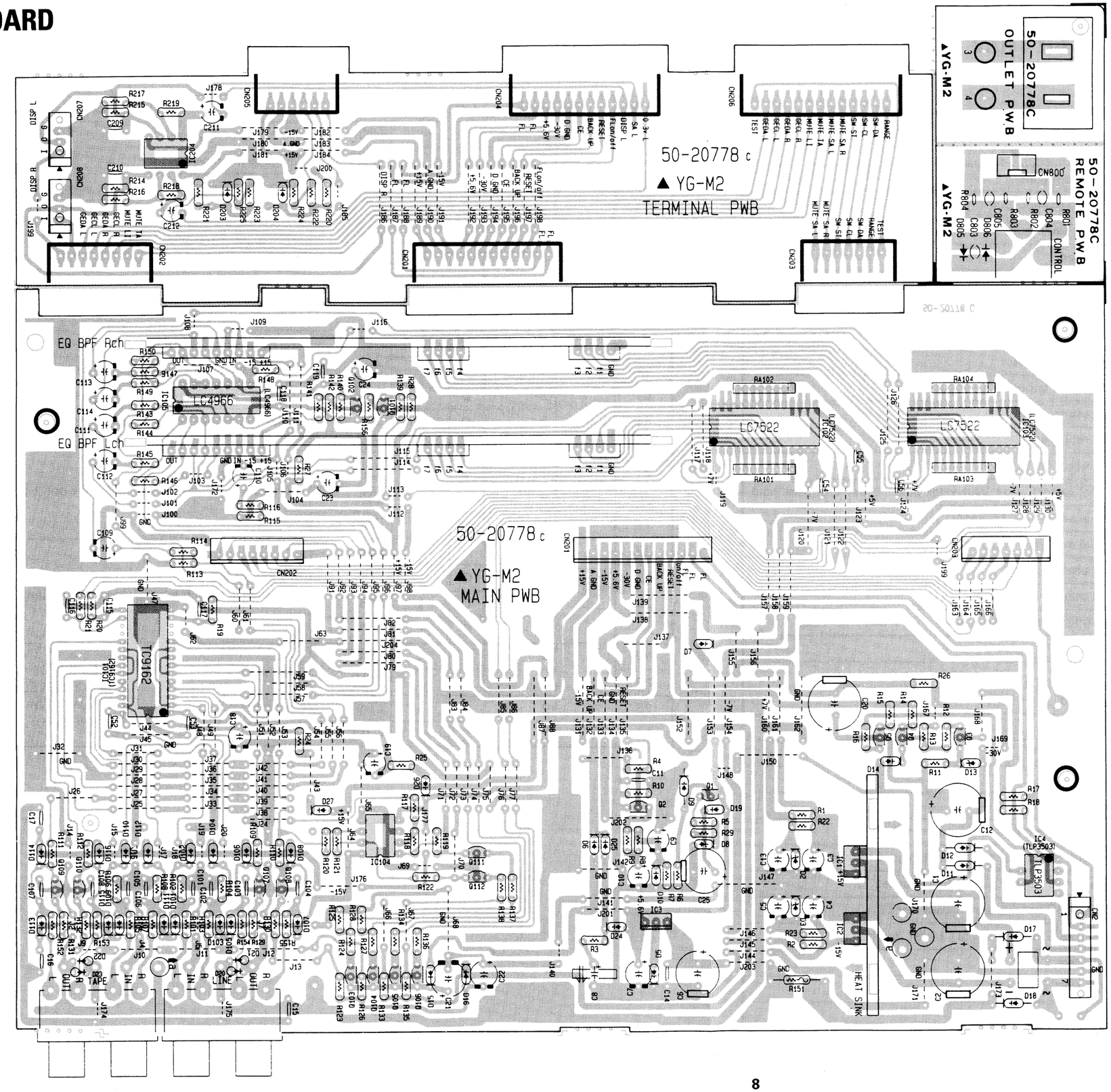
1-2. Explanation of terminals

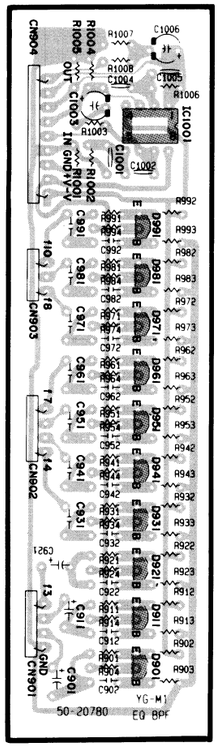
Pin No.	Pin name		I/O	Logic	Name	Function discription
18	P0	0/INT4	I	L	$\overline{KR0}$	Key return (input).
17		1/$\overline{SCK}$	I	L	$\overline{KR1}$	Key return (input).
16		2/SO	I	L	$\overline{KR2}$	Key return (input).
15		3/SI	I	L	$\overline{KR3}$	Key return (input).
4	P1	0/INT0	I	—	—	Not used.
3		1/INT1	I	—	—	Not used.
2		2/INT2	I	—	—	Not used.
1		3/INT3	I	L	$\overline{PCE}$	Power failure signal detection input. H: Active L: Stop
14	P2	0/PTO0	I	L	$\overline{KR4}$	Key return (input).
13		1/PTO1	I	L	$\overline{KR5}$	Key return (input).
12		2/PCL	I	L	$\overline{KR6}$	Key return (input).
11		3	I	L	$\overline{KR7}$	Key return (input).
8	PTHO	0	I	—	—	Not used.
7		1	I	H	PPHOLD	(Initial switch) H: With peak hold L: Without peak hold
6		2	I	H	P5343	(Initial switch) NORMAL: H
5		3	I	H	PTEST	(Initial switch) NORMAL: H
9	T1	0	I	—	—	Not used.
10		1	I	—	—	Not used.
36	P3	0	O	L	$\overline{LRNGS}$	12/6dB switching (for signal). H: 6dB L: 12dB
35		1	O	L	—	Not used.
34		2	I/O	H	—	Not used.
33		3	I/O	H	—	Not used.
40	P4	0	O	—		Not used.
39		1	O	—		Not used.
38		2	O	—	SWCLKB	Not used.
37		3	O	—	SWDTB	Not used.
44	P5	0	O	L	$\overline{MUTEDB}$	DISP R muting signal ("L" for muting)
43		1	O	H	SWST	Selector IC control signal (Store signal)
42		2	O	H	SWCLK	Selector IC control signal (Clock signal)
41		3	O	H	$\overline{SWDT}$	Selector IC control signal (Data signal)
51	P6	0	O	L	$\overline{MUTE}$	REC L OUT muting signal ("L" for muting)
50		1	O	L	—	Not used.
49		2	O	L	$\overline{MUTEL}$	LIEN OUT muting signal ("L" for muting)
48		3	O	L	—	Not used.

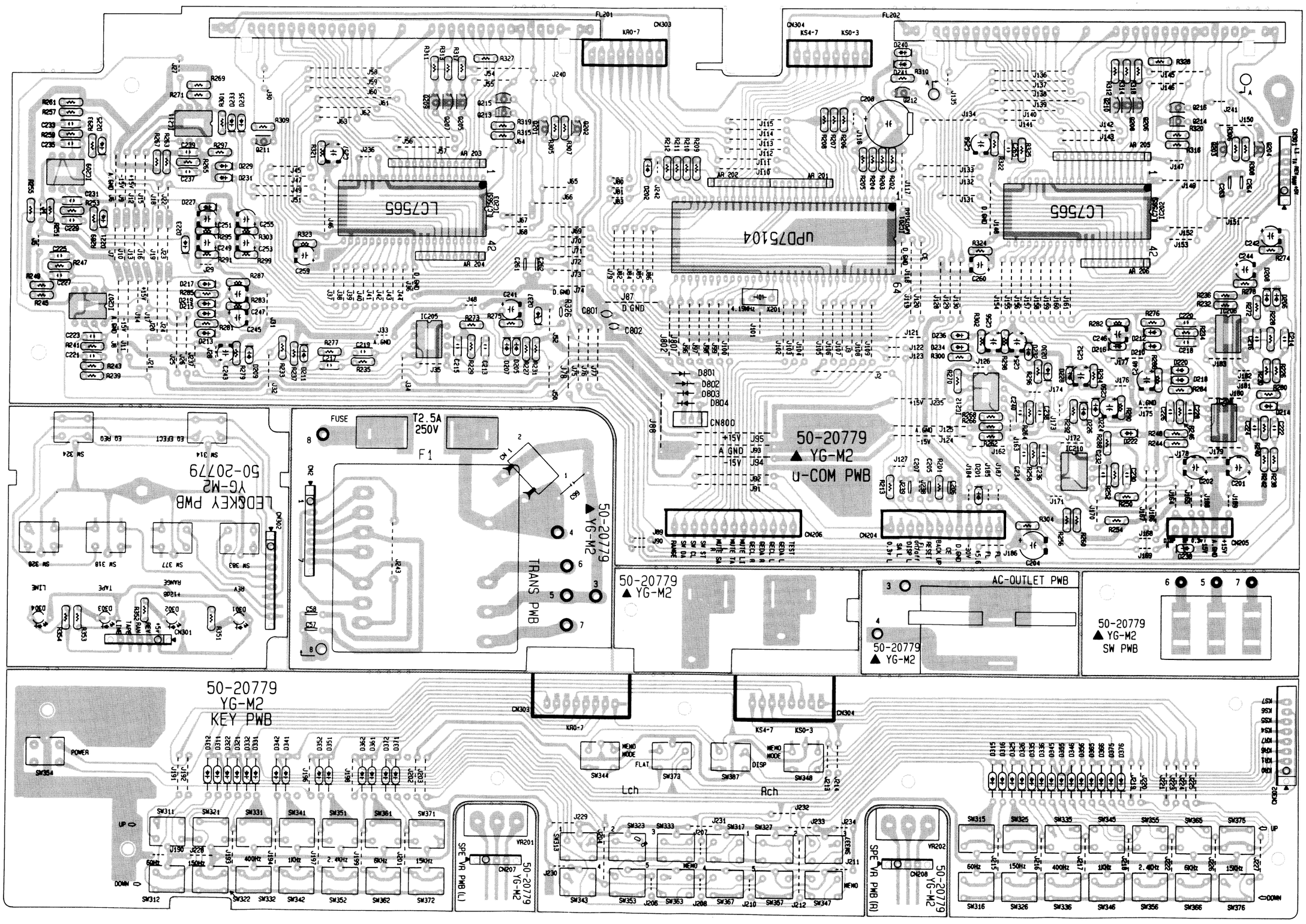
GE-89/5020
CIRCUIT DESCRIPTION

Pin No.	Pin name		I/O	Logic	Name	Function discription
55	P7	0	O	L	$\overline{LEQ}$	Direct segment signal for FL tube (L [EQUALIZER])
54		1	O	L	$\overline{LEQR}$	Direct segment signal for FL tube (L [EQ. REC])
53		2	O	L	$\overline{LEQB}$	Direct segment signal for FL tube (R [EQUALIZER])
52		3	O	L	$\overline{LEQRB}$	Direct segment signal for FL tube (R [EQ.REC])
59	P8	0	O	H	DSCLK	LC7565 control signal (L Clock signal)
58		1	O	H	DSCLKB	LC7565 control signal (R Clock signal)
57		2	O	H	DSDI	LC7565 control signal (L/R Data signal)
56		3	O	L	$\overline{FIL}$	FL filament ON/OFF. H: FL tube ON L: FL tube OFF
63	P9	0	O	H	GEDI	LC7522 control signal (L Data signal)
62		1	O	H	GECLK	LC7522 control signal (L Clock signal)
61		2	O	H	GEDIB	LC7522 control signal (R Data signal)
60		3	O	H	GECLKB	LC7522 control signal (R Clock signal)
22	P12	0	O	L	$\overline{KSO}$	Key Scanning (output) (with built-in pull-up resistor and mask option)
21		1	O	L	$\overline{KSI}$	
20		2	O	L	$\overline{KS2}$	
19		3	O	L	$\overline{KS3}$	
26	P13	0	O	L	$\overline{KS4}$	Key Scanning (output) (with built-in pull-up resistor and mask option)
25		1	O	L	$\overline{KS5}$	
24		2	O	L	$\overline{KS6}$	
23		3	O	L	$\overline{KS7}$	
30	P14	0	O	L	$\overline{LRNG}$	LED output (12 dB LED)
29		1	O	L	$\overline{LREV}$	(REVERSE LED)
28		2	O	L	$\overline{LTAPE}$	H ..... LED OFF ("TAPE' LED)
27		3	O	L	$\overline{LLINE}$	L ..... LED ON ("LINE" LED)

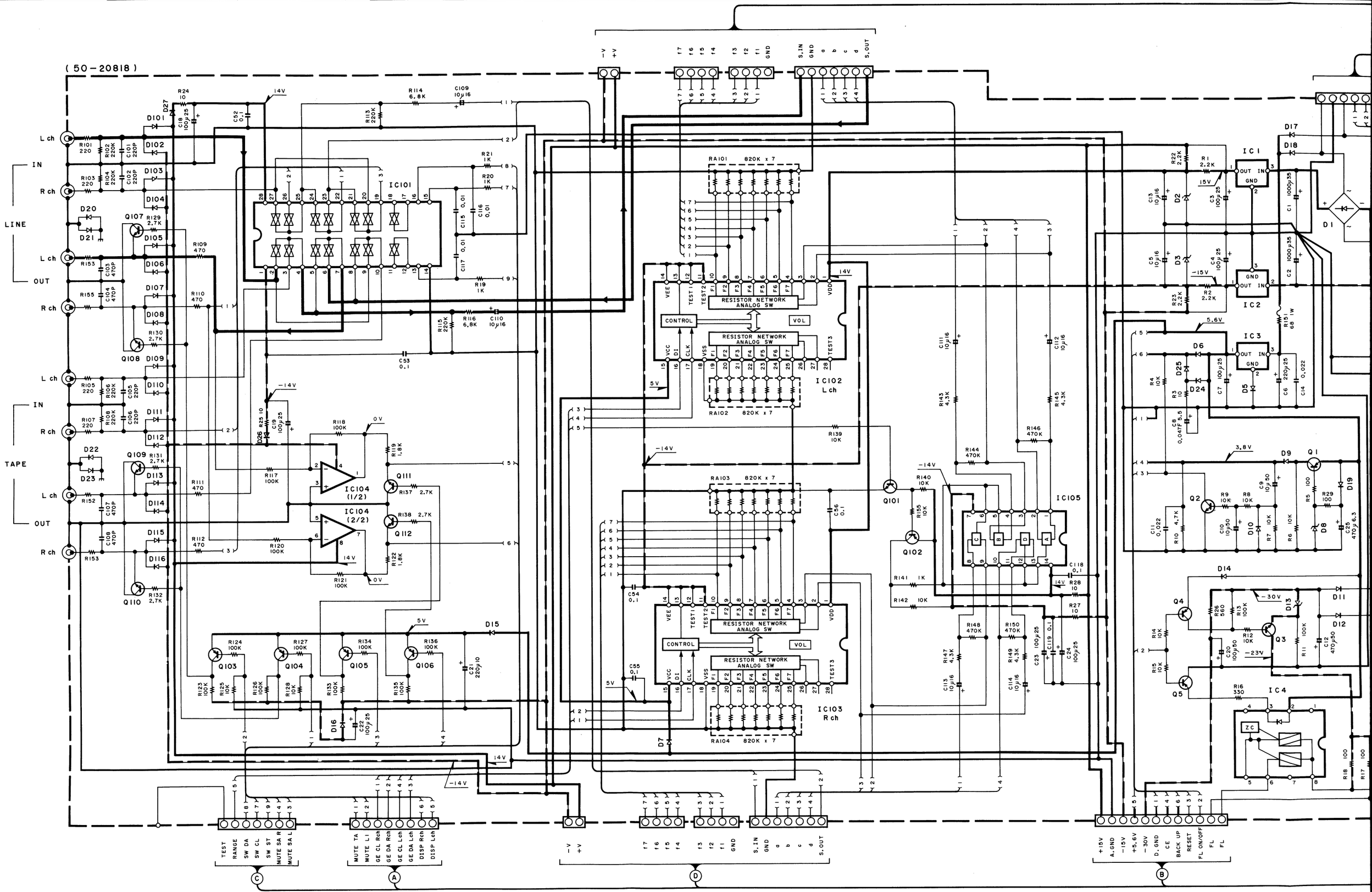
PC BOARD

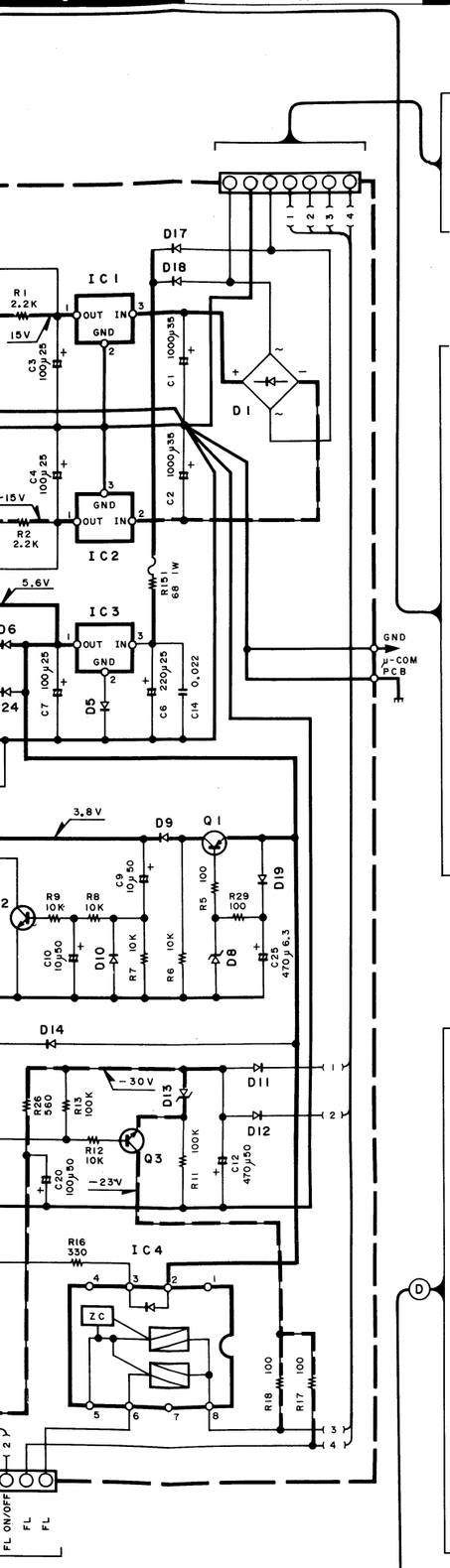

50-20778 c
▲YG-M2
TERMINAL PWB
50-20778C
OUTLET P.W.B
▲YG-M2
50-20778C
REMOTE P.W.B
CONTROL
▲YG-M2
50-20778 c
▲YG-M2
MAIN PWB
EQ BPF Rch
EQ BPF Lch
LC4966
LC7522
LC7522
TC9162
HEAT SINK
IC4
(TLP3503)
TLP3503


50-20780
EQ BPF

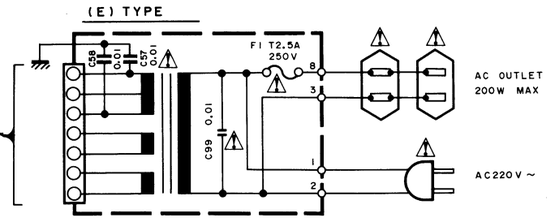


Refer to the schematic diagram for the values of resistors and capacitors.

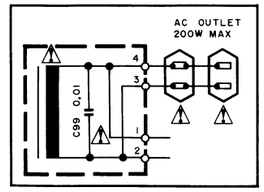

(50-20818)
IN
LINE
OUT
TAPE
L ch
R ch
D101
D102
D103
D104
D105
D106
D107
D108
D109
D110
D111
D112
D113
D114
D115
D116
D20
D21
D22
D23
D27
Q107
Q108
Q109
Q110
Q111
Q112
IC101
IC104 (1/2)
IC104 (2/2)
IC102 Lch
IC103 Rch
RA101 820K x 7
RA102 820K x 7
RA103 820K x 7
RA104 820K x 7
RESISTOR NETWORK ANALOG SW
CONTROL
VOL
IC105
IC1
IC2
IC3
IC4
D1
D2
D3
D4
D5
D6
D7
D8
D9
D10
D11
D12
D13
D14
D15
D16
D17
D18
D19
Q1
Q2
Q3
Q4
Q5
Q101
Q102
14V
-14V
5V
-5V
0V
3.8V
5.6V
-30V
-23V
15V
-15V
-V +V
f7 f6 f5 f4 f3 f2 f1 GND
S.IN GND a b c d S.OUT
TEST RANGE SW DA SW CL SW ST MUTE SA R MUTE SA L
MUTE TA MUTE L1 GE CL Rch GE DA Rch GE CL Lch GE DA Lch DISP Rch DISP Lch
+15V A.GND -15V +5.6V -30V D.GND CE BACK UP RESET FL ON/OFF FL FL
A
B
C
D



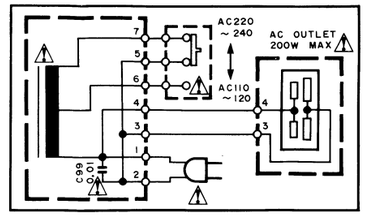
(E) TYPE

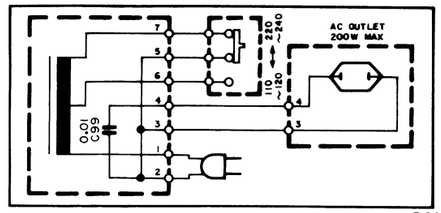


(T) TYPE

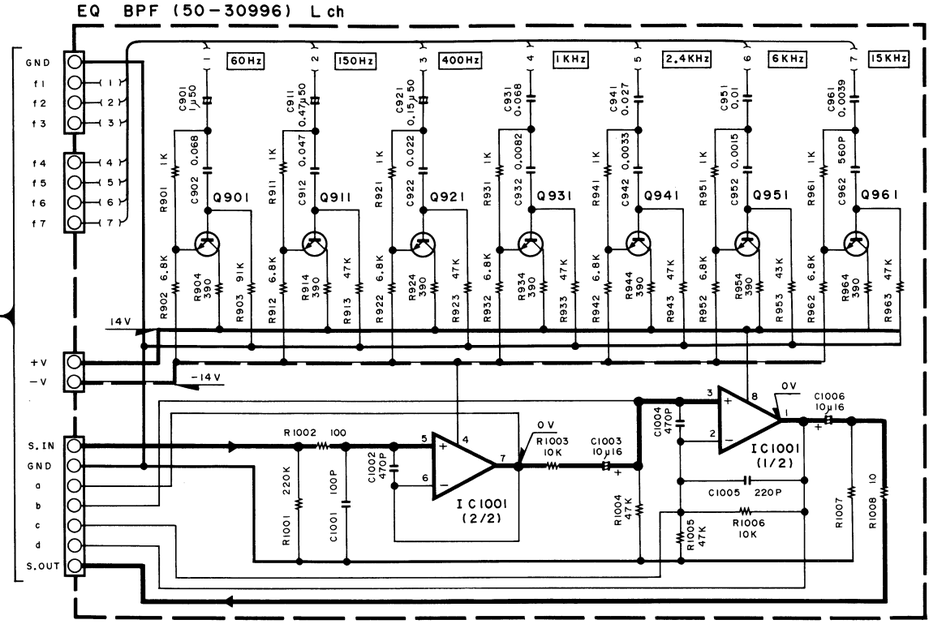


(M,UE) TYPE





EQ BPF (50-30996) L ch

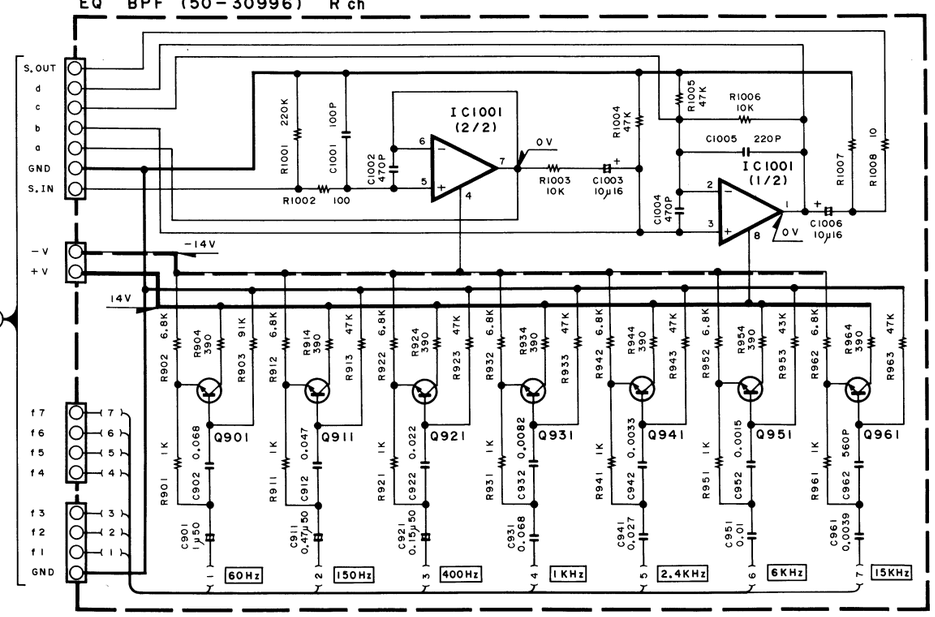


IC1	: NJM78M15FA
IC2	: NJM79M15FA
IC3	: NJM78M05FA
IC4	: TLP 3503
IC101	: TC9162 N
IC102, 103	: LC7522
IC104	: BA4558DX
IC105	: LC4966
Q1, 4, 5, 102~106	: 2SA933S-R
Q2, 3, 101	: 2SC1740S-R
Q107~112	: 2SC3327-A
D1	: DF02M
D2, 3	: MTZJ6.8C
D5~7, 10, 14~16, 19~27, 101~116	: ISS131-T77
D8	: MTZJ4.7B
D9, 11, 12, 17, 18	: MPG06B-G3
D13	: MTZJ6.2B

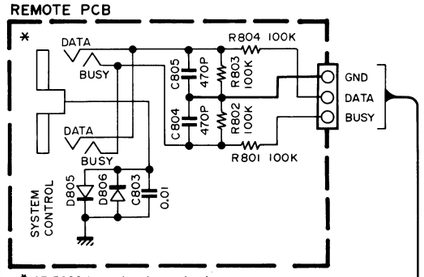
SIGNAL LINE
GND LINE
+B LINE
-B LINE

IC1001 : M5218P
Q901, 911, 921, 931, 941, 951, 961 : 2SC1740S-R

EQ BPF (50-30996) R ch



REMOTE PCB



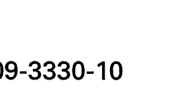
* GE-5020 has only a bove circuit.

D805,806 : ISS131-T77

CAUTION : For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). ⚠ Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

- DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.
- Les tensions c.c. doivent être measurées avec un voltmètre à haute impédance. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.
- Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen Voltmeter gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen instrumenten oder Geräten u.U. geringfügig.

TC9126N



LC4966

BA4558DX

LC7522

M5218P

µPD75104CW-070

2SA933S-R
2SC1740S-R
2SC3327-A

NJM78M05FA
NJM78M15FA

NJM79M15FA

Y09-3330-10

GE-89/5020

KENWOOD

U V W X Y Z AA AB AC AD AE

1 2 3 4 5 6 7

(50-30995)

Lch

f0 UP f1 UP f2 UP f3 UP f4 UP f5 UP f6 UP

SW311 SW321 SW331 SW341 SW351 SW361 SW371

D311 D321 D331 D341 D351 D361 D371

f0 DOWN f1 DOWN f2 DOWN f3 DOWN f4 DOWN f5 DOWN f6 DOWN

S312 SW322 SW332 SW342 SW352 SW362 SW372

D312 D322 D332 D342 D352 D362 D372

1 2 3 4 5 MEMO FLAT REV

SW313 SW323 SW333 SW343 SW353 SW363 SW373 SW383

EQ EFECT EQ REC M.MODE POWER

SW314 SW324 SW344 SW354

Rch

f0 UP f1 UP f2 UP f3 UP f4 UP f5 UP f6 UP

SW315 SW325 SW335 SW345 SW355 SW365 SW375

D315 D325 D335 D345 D355 D365 D375

f0 DOWN f1 DOWN f2 DOWN f3 DOWN f4 DOWN f5 DOWN f6 DOWN

SW316 SW326 SW336 SW346 SW356 SW366 SW376

D316 D326 D336 D346 D356 D366 D376

1 2 3 4 5 MEMO RANGE DISP

SW317 SW327 SW337 SW347 SW357 SW367 SW377 SW387

TAPE LINE M.MODE

SW318 SW328 SW348

KR0 KR1 KR2 KR3 KR4 KR5 KR6 KR7 → (H)

D311, 312, 315, 316, 321, 322, 325, 326, 331, 332, 335, 336, 341, 342, 345, 346, 351, 352, 355, 356, 361, 362, 365, 366, 371, 372 : ISS131-T77

KS4 KS5 KS6 KS7 KS0 KS1 KS2 KS3 → (I)

(50-30995)

LED304 R354 820 — LINE

LED303 R353 820 — TAPE

LED301 R351 820 — REV

LED302 R352 820 — RANGE

LINE TAPE REV RANGE 5V → (J)

LED301~304 : SEL4110RTP2

(50-31011)

CN202

DISP Lch (8) DISP Rch (7) GE DA Lch (6) GE CL Lch (5) GE DA Rch (4) GE CL Rch (3) MUTE LI (2) MUTE TA (1)

IC204 : BA4558DX

R220 10K R218 120K D204 R222 1K C212 4.7μ50 R224 1K IC204 (2/2) 14V

R214 120K C210 100P R216 10K

R215 120K C209 100P R217 10K IC204 (1/2) −14V C211 4.7μ50 R225 1K D203 R223 1K

R221 10K R219 120K

CN201

+15V (12) A.GND (11) −15V (10) +5.6V (9) −30V (8) D.GND (7) CE (6) BACK UP (5) RESET (4) FL ON/OFF (3) FL (2) FL (1)

CN203

MUTE SA L (7) MUTE SA R (6) SW ST (5) SW CL (4) SW DA (3) RANGE (2) TEST (1)

DISP Rch (50-30995) IN OUT GND — VR202 100K(B) Rch

DISP Lch (50-30995) IN OUT GND — VR201 100K(B) Lch

S.A.LEVEL

RANGE SW DA SW CL SW ST MUTE SA R MUTE SA L MUTE TA MUTE LI GE CLR GE DAR GE CLL GE DAL TEST → CN206 (E)

0.3V L SA L DISP L FL ON/OFF RESET BACK UP CE D.GND −30V +5.6V FL FL → CN204 (F)

DISP R SA R 0.3V R −15V A.GND +15V → CN205 (G)

(A) (B) (C) (K)

FL201 FIP9FW19AY (Lch)

REFERENCE A3 MANUAL A4 ▽A10 ▽A9 ▽A8 ▽A7 ▽A6 1 2 3 4 5 C RM MEMORY A11 EQUALIZER E EQ.REC F

60 150 400 1K 2.4K 6K 8 15K TOTAL

G9 G8 G7 G6 G5 G4 G3 G2 G1

FL202 FIP9FW19AY (Rch)

60 150 400 1K 2.4K 6K 8 15K TOTAL

G9 G8 G7 G6 G5 G4 G3 G2

5V

60Hz 150Hz 400Hz 1KHz 2.4KHz 6KHz 15KHz

R275 150K R241 1μ50 D207 R279 150K C243 1μ50 D211 R283 150K C245 1μ50 D215 R287 150K C247 1μ50 D219 R291 150K C249 1μ50 D223 R295 150K C251 1μ50 D227 R299 150K C253 1μ50 D231 R303 150K C255 1μ50 D235

14V −14V 4.3V

D205 D209 D213 D217 D221 D225 D229 D233

IC205 (1/2) IC205 (2/2) IC207 (1/2) IC207 (2/2) IC209 (1/2) IC209 (2/2) IC211 (1/2) IC211 (2/2)

R273 4.7K R277 4.7K R281 4.7K R285 4.7K R289 4.7K R293 4.7K R297 4.7K R301 4.7K

0V 0V

C213 0.12 R229 360K R227 51K C215 0.12 R231 1.5K R233 51K C217 0.047 R235 360K C219 0.047 R237 1.5K R239 62K C221 0.15 R241 390K C223 0.15 R243 1.6K R245 51K C225 6800P R247 360K C227 6800P R249 1.5K R251 51K C229 2700P R253 390K C231 2700P R255 1.6K R257 39K C233 1000P R259 360K C235 1000P R261 2K R263 39K C237 470P R265 360K C239 470P R267 1.5K R269 2K R271 120K R304 270 D237 D238 R326 270 5V

C214 0.12 R228 360K C216 0.12 R230 1.5K R232 51K C218 0.047 R234 360K C220 0.047 R236 1.5K R238 62K C222 0.15 R240 390K C224 0.15 R242 1.6K R244 51K C226 6800P R246 360K C228 6800P R248 1.5K R250 51K C230 2700P R252 390K C232 2700P R254 1.6K R256 39K C234 1000P R258 360K C236 1000P R260 2K R262 39K C238 470P R264 360K C240 470P R266 1.5K R268 2K R270 120K

IC206 (1/2) IC206 (2/2) IC208 (1/2) IC208 (2/2) IC210 (1/2) IC210 (2/2) IC212 (1/2) IC212 (2/2)

0V 0V

R272 4.7K R276 4.7K R280 4.7K R284 4.7K R288 4.7K R292 4.7K R296 4.7K R300 4.7K

D206 D210 D214 D218 D222 D226 D230 D234

4.3V

R274 150K C242 1μ50 D208 R278 150K C244 1μ50 D212 R282 150K C246 1μ50 D216 R286 150K C248 1μ50 D220 R290 150K C250 1μ50 D224 R294 150K C252 1μ50 D228 R298 150K C254 1μ50 D232 R302 150K C256 1μ50 D236

60Hz 150Hz 400Hz 1KHz 2.4KHz 6KHz 15KHz

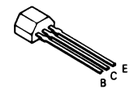
14V −14V

C202 100μ25 C201 100μ25

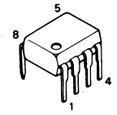
D201

CN205 (G) CN204 (F) CN206 (E) (H) (I) (J)

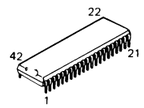
DTC114ES
DTA114TS



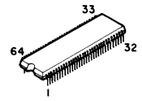
BA4558DX



LC7565



μPD75104CW-070



CAUTION : For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

- DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.
- Les tensions c.c. doivent être measurées avec un voltmètre à haute impédance. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.
- Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen Voltmeter gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen instrumenten oder Geräten u.U. geringfügig.

*D801~804, C801,802 are built only in GE-5020.

Q201 ~ 204 : DTA114TS
Q205 ~ 216 : DTC114ES
D201 ~ 236 : 1SS131-T77
D237, 238 : MTZJ4.3A
D240, 241, 801~804 : 1SS131-T77

IC201 : μPD75104CW-070
IC202, 203 : LC7565
IC205~212 : BA4558DX

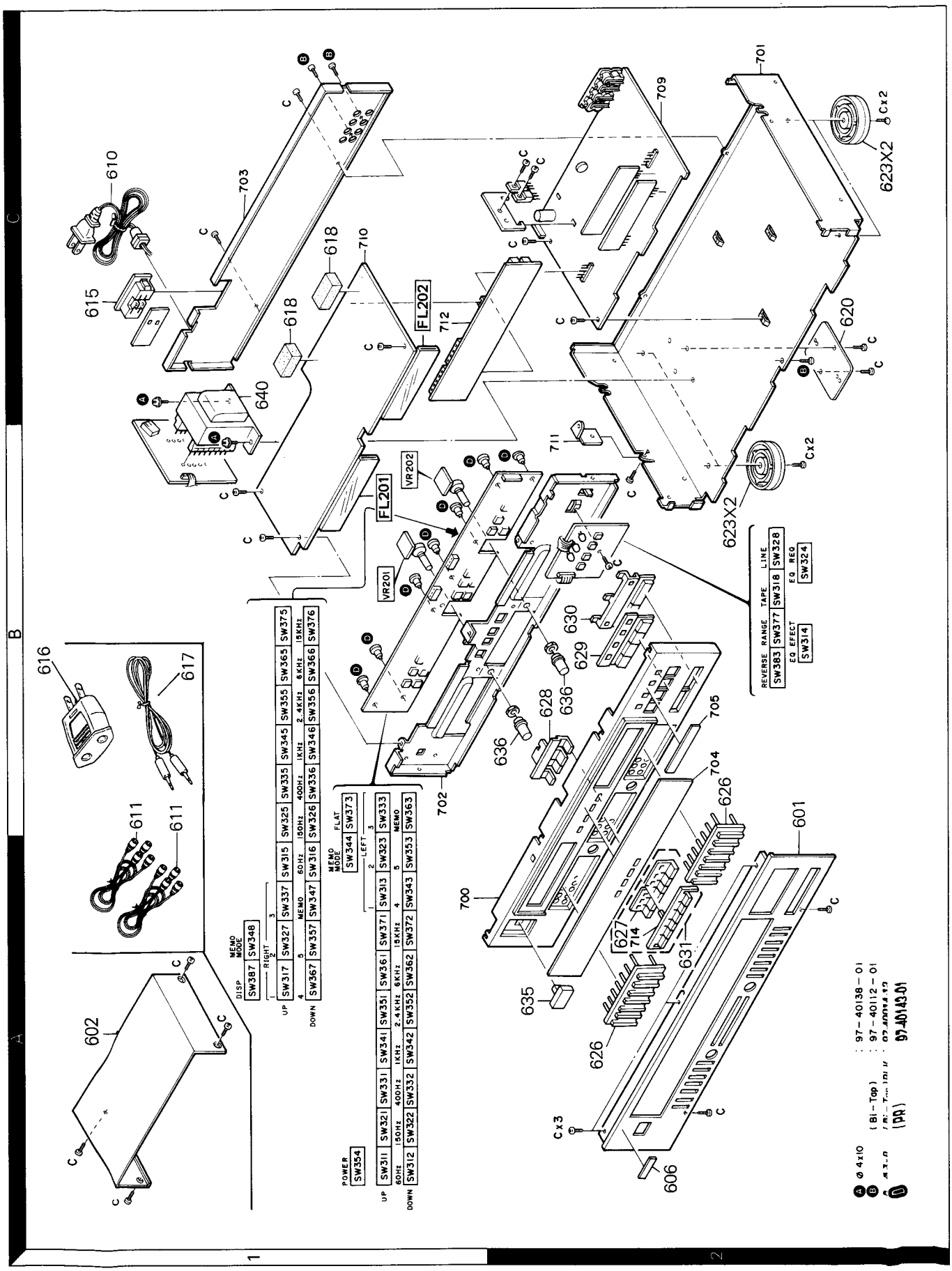
GND LINE
+B LINE
−B LINE

Y09-3330-10

GE-89/5020

KENWOOD

EXPLODED VIEW



Parts with the exploded numbers larger than 700 are not supplied.

GE-89/5020

PARTS LIST

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	Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
				GE-89/5020			
	601	2B	＊	AZ060-22556-01	FRONT PANEL ASSY(GE-89)	Y	
	601	2B	＊	AZ060-22566-01	FRONT PANEL ASSY		
	602	1A		A01-1775-01	CABINET		
	606	2A		B43-0287-04	KENWOOD BADGE		
	-			AZ060-40685-01	UL LABEL	K	
	-		＊	AZ060-40856-01	CSA LABEL	P	
	-			B46-0092-03	WARRANTY CARD	K	
	-			B46-0094-03	WARRANTY CARD	Y	
	-			B46-0095-03	WARRANTY CARD	Y	
	-			B46-0121-03	WARRANTY CARD	P	
	-			B46-0122-13	WARRANTY CARD	E	
	-			B46-0143-03	WARRANTY CARD	T	
	-		＊	B50-7865-00	INSTRUCTION MANUAL(ENG)		
	-		＊	B50-7866-00	INSTRUCTION MANUAL(FRE)	PME	
	-		＊	B50-7867-00	INSTRUCTION MANUAL(S,A)	M	
	-		＊	B50-7868-00	INSTRUCTION MANUAL(G,D,I)	E	
	-			B58-0513-04	CAUTION CARD (220-240V)	Y	
	-			B58-0803-13	CAUTION CARD	E	
⚠	610	1C		AZ050-42851-01	AC CORD DP-201-1	KP	
⚠	610	1C		AZ050-42852-01	AC CORD DEP-101	EM	
⚠	610	1C		AZ050-42905-01	AC CORD	T	
⚠	610	1C		AZ050-43080-01	AC CORD	Y	
	611	1B		E30-0505-05	AUDIO CORD		
⚠	615	1C		AZ050-40844-01	OUTLET	ME	
⚠	615	1C		E03-0085-05	AC OUTLET	T	
⚠	616	1B		E03-0115-05	AC ADAPTER (AZ050-43908Y01)	M	
	617	1B	＊	AZ050-43948-01	SYSTEM CONTROL CORD(GE-5020)		
⚠	F1			AZ050-41115-14	FUSE (2.5A/250V)	E	
	618	1C		AZ060-41763-51	CUSHION (40X15X9)		
	-			AZ019-38002-05	P.E BAG (235X360)		
	-			AZ019-38012-09	P.E BAG (800X450)		
	-		＊	AZ019-47030-09	CARTON BOX (GE-89)	Y	
	-		＊	AZ019-47030-10	CARTON BOX		
	-			AZ060-20854-02	PACKING		
	620	2C		AZ060-43388-01	TRANS PLATE		
	623	2B,2C		J02-0366-15	FOOT (GE-89)	Y	
	623	2B,2C		J02-1034-05	FOOT		
	-			AZ012-46250-01	TIE		
	626	2A,2B		AZ060-22314-01	EQ BUTTON		
	627	2A		AZ060-31603-01	MEMO BUTTON (LOWER)		
	628	2B		AZ060-31604-01	MODE BUTTON		
	629	2B		AZ060-31605-01	SELECTOR BUTTON		
	630	2B		AZ060-31606-01	33X9 TWIN BUTTON		
	631	2A		AZ060-43469-01	MEMO BUTTON ASS'Y		
	635	2A		K27-2004-04	KNOB (POWER)		
	636	2B		K29-3632-04	KNOB (S.A. LEVEL)		
⚠	640	1C		AZ050-43513-01	TRANSFORMER	KP	
⚠	640	1C		AZ050-43547-01	TRANSFORMER	MY	
⚠	640	1C		AZ050-43548-01	TRANSFORMER	E	
⚠	640	1C		AZ050-43549-01	TRANSFORMER	T	

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PARTS LIST

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Parts without **Parts No.** are not supplied.
Les articles non mentionnes dans le **Parts No.** ne sont pas fournis.
Teile ohne **Parts No.** werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
- A			AZ080-62608-55 AZ097-40138-01	PAN T.P SCREW (2.6X8) PAN SEMS S-TITE SCREW (4X10)	MY	
ELECTRIC PARTS						
LED301-30	4		AZ278-50452-01	LED SEL 4110RTP2		
C1 ,2			CE04KW1V102M	ELECTRO 1000UF 35WV		
C3 ,4			CE04KW1E101M	ELECTRO 100UF 25WV		
C5			CE04KW1C100M	ELECTRO 10UF 16WV		
C6			CE04KW1E221M	ELECTRO 220UF 25WV		
C7			CE04KW1E101M	ELECTRO 100UF 25WV		
C8			AZ050-43588-01	SUPER CA 0.047F 5.5		
C9 ,10			CE04KW1H100M	ELECTRO 10UF 50WV		
C11			CK45FB1H223K	CERAMIC 0.022UF K		
C12			CE04KW1H471M	ELECTRO 470UF 50WV		
C13			CE04KW1C100M	ELECTRO 10UF 16WV		
C14			CK45FB1H223K	CERAMIC 0.022UF K		
C18 ,19			CE04KW1E101M	ELECTRO 100UF 25WV		
C20			CE04KW1H101M	ELECTRO 100UF 50WV		
C21			CE04KW1A221M	ELECTRO 220UF 10WV		
C22 -24			CE04KW1E101M	ELECTRO 100UF 25WV		
C25			CE04KW0J471M	ELECTRO 470UF 6.3WV		
C51 ,56			CK45FB1H104K	CERAMIC 0.10UF K		
C57 ,58			CK45FB1H103K	CERAMIC 0.010UF K		
⚠ C99			AZ050-40978-01	CERAMIC 0.01UF		
C101,102			CK45FB1H221K	CERAMIC 220PF K		
C103,104			CK45FB1H471K	CERAMIC 470PF K		
C105,106			CK45FB1H221K	CERAMIC 220PF K		
C107,108			CK45FB1H471K	CERAMIC 470PF K		
C109-114			CE04KW1C100M	ELECTRO 10UF 16WV		
C115-117			CK45FB1H103K	CERAMIC 0.010UF K		
C118,119			CK45FB1H104K	CERAMIC 0.10UF K		
C201,202			CE04KW1E101M	ELECTRO 100UF 25WV		
C204			CE04KW1A221M	ELECTRO 220UF 10WV		
C205-207			CK45FB1H223K	CERAMIC 0.022UF K		
C208			CE04KW0J222M	ELECTRO 2200UF 6.3WV		
C209,210			CK45FB1H101K	CERAMIC 100PF K		
C211,212			CE04KW1H4R7M	ELECTRO 4.7UF 50WV		
C213-216			CQ93M1H124K	MYLAR 0.12UF K		
C217-220			CQ93M1H473K	MYLAR 0.047UF K		
C221-224			CQ93M1H153K	MYLAR 0.015UF K		
C225-228			CQ93M1H682J	MYLAR 6800PF J		
C229-232			CQ93M1H272K	MYLAR 2700PF K		
C233-236			CQ93M1H102K	MYLAR 1000PF K		
C237-240			CQ93M1H471K	MYLAR 470PF K		
C241-256			CE04KW1H010M	ELECTRO 1.0UF 50WV		
C257-260			CE04KW1H4R7M	ELECTRO 4.7UF 50WV		
C261-264			CK45FB1H223K	CERAMIC 0.022UF K		
C265			CQ93M1H152K	MYLAR 1500PF K		
C801,802			CK45FB1H102K	CERAMIC 1000PF K		
C803			CK45FB1H103K	CERAMIC 0.010UF K		
C804,805			CK45FB1H471K	CERAMIC 470PF K		
C901			CE04KW1H010M	ELECTRO 1.0UF 50WV		
C902			CQ93M1H683K	MYLAR 0.068UF K		
C911			CE04KW1HR47M	ELECTRO 0.47UF 50WV		
C912			CQ93M1H473K	MYLAR 0.047UF K		

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GE-89/5020

PARTS LIST

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Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
C921		*	CE04KW1HR15M	ELECTRO 0.15UF 50WV		
C922			CQ93M1H223K	MYLAR 0.022UF K		
C931			CQ93M1H683K	MYLAR 0.068UF K		
C932			CQ93M1H822K	MYLAR 8200PF K		
C941			CQ93M1H273K	MYLAR 0.027UF K		
C942			CQ93M1H332K	MYLAR 3300PF K		
C951			CQ93M1H103K	MYLAR 0.010UF K		
C952			CQ93M1H152K	MYLAR 1500PF K		
C961			CQ93M1H392K	MYLAR 3900PF K		
C962		*	CQ93M1H561K	MYLAR 560PF K		
C1001		*	CK45FB1H101J	CERAMIC 100PF J		
C1002			CK45FB1H471K	CERAMIC 470PF K		
C1003			CE04KW1C100M	ELECTRO 10UF 16WV		
C1004			CK45FB1H471K	CERAMIC 470PF K		
C1005		*	CQ93M1H221K	MYLAR 220PF K		
C1006			CE04KW1C100M	ELECTRO 10UF 16WV		
⚠ 615	1C		AZ050-42204-01	AC OUTLET 2P	KPY	
-			AZ050-42490-02	PHONO JACK(LINE/TAPE)		
-		*	AZ050-43930-01	MINITURE PHONE JACK(GE-5020)		
XL201			AZ050-42949-01	RESONATOR 4.19 MHZ		
RA101-104		*	AZ050-43541-01	MULTI-COMP 800K X7		
RA201			AZ050-43542-01	MULTI-COMP 4.7K X8		
RA202			AZ050-43542-04	MULTI-COMP 100K X8		
RA203			AZ050-43542-03	MULTI-COMP 100K		
RA204			AZ050-43542-02	MULTI-COMP 100K X9		
RA205			AZ050-43542-03	MULTI-COMP 100K		
RA206			AZ050-43542-02	MULTI-COMP 100K X9		
VR201,202			AZ050-43544-01	POTENTIOMETER(100K)SA LEVEL		
SW311-318			AZ050-43546-01	TACT SWITCH		
SW321-328			AZ050-43546-01	TACT SWITCH		
SW331-333			AZ050-43546-01	TACT SWITCH		
SW335-337			AZ050-43546-01	TACT SWITCH		
SW341-348			AZ050-43546-01	TACT SWITCH		
SW351-357			AZ050-43546-01	TACT SWITCH		
SW361-363			AZ050-43546-01	TACT SWITCH		
SW365-367			AZ050-43546-01	TACT SWITCH		
SW371-373			AZ050-43546-01	TACT SWITCH		
SW375-377			AZ050-43546-01	TACT SWITCH		
SW383			AZ050-43546-01	TACT SWITCH		
SW387			AZ050-43546-01	TACT SWITCH		
D1			DF02M	DIODE		
D2 ,3			MTZJ6.8C	ZENER DIODE		
D5 -7			1SS131-T77	DIODE		
D8			MTZJ4.7B	ZENER DIODE		
D9			MPG06B-G3	DIODE		
D10			1SS131-T77	DIODE		
D11 ,12			MPG06B-G3	DIODE		
D13			MTZJ6.2B	ZENER DTODE		
D14 -16			1SS131-T77	DIODE		
D17 ,18			MPG06B-G3	DIODE		
D19 -27			1SS131-T77	DIODE (MAIN)		
D19 -27			1SS131-T77	DIODE (U-CON)	KPEMTY	

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D101-116			1SS131-T77	DIODE		
D201-236			1SS131-T77	DIODE		
D237,238			MTZJ4.3A	ZENER DIODE		
D240,241			1SS131-T77	DIODE		
D311,312			1SS131-T77	DIODE		
D315,316			1SS131-T77	DIODE		
D321,322			1SS131-T77	DIODE		
D325,326			1SS131-T77	DIODE		
D331,332			1SS131-T77	DIODE		
D335,336			1SS131-T77	DIODE		
D341,342			1SS131-T77	DIODE		
D345,346			1SS131-T77	DIODE		
D351,352			1SS131-T77	DIODE		
D355,356			1SS131-T77	DIODE		
D361,362			1SS131-T77	DIODE		
D365,366			1SS131-T77	DIODE		
D371,372			1SS131-T77	DIODE		
D801-806			1SS131-T77	DIODE		
FL201,202	1C		FIP9FW19AY	FL		
IC1			NJM78M15FA	IC		
IC2			NJM79M15FA	IC		
IC3			NJM78M05FA	IC		
IC4			TLP3503	IC		
IC1001			M5218P	IC(OP AMP X2)		
IC101			TC9162N	IC(ANALOG SWITCH ARRAY)		
IC102,103			LC7522	IC(7CH GRAPHIC EQUALIZER)		
IC104			BA4558DX	IC(OP AMP X2)		
IC105			LC4966	IC(CMOS LOGIC BILATERAL SW)		
IC201			UPD75104CW-070	IC(MICROPROCESSOR)		
IC202,203			LC7565	IC(GRAPHIC EQ FL DISPLAY DR)		
IC204-212			BA4558DX	IC(OP AMP X2)		
Q1			2SA933S-R	TRANSISTOR		
Q2 ,3			2SC1740S-R	TRANSIATOR		
Q4 ,5			2SA933S-R	TRANSIATOR		
Q101			2SC1740S-R	TRANSIATOR		
Q102-106			2SA933S-R	TRANSIATOR		
Q107-112			2SC3327-A	TRANSIATOR		
Q201-204			DTA114TS	DIGITAL TRANSISTOR		
Q205-216			DTC114ES	DIGITAL TRANSISTOR		
Q901			2SC1740S-R	TRANSISTOR		
Q911			2SC1740S-R	TRANSISTOR		
Q921			2SC1740S-R	TRANSISTOR		
Q931			2SC1740S-R	TRANSISTOR		
Q941			2SC1740S-R	TRANSISTOR		
Q951			2SC1740S-R	TRANSISTOR		
Q961			2SC1740S-R	TRANSISTOR		

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GE-89/5020

SPECIFICATIONS

Equalizer characteristic

Variable range ..... ± 12 dB/± 6 dB (L & R independently adjustable)
Center frequencies ..... 60 Hz, 150 Hz, 400 Hz, 1 kHz, 2.4 kHz, 6 kHz, 15 kHz
Frequency response ..... 10 Hz – 100 kHz + 1 dB, −3 dB
Total harmonic distortion ..... Less than 0.006% (1 kHz all controls flat output 1 V)
Gain ..... 0 ±1 dB
Maximum output voltage ..... 3.7 V (1 kHz, THD 0.03%)
S/N ratio ..... 100 dB (IHF-A network, 1 V)
Input impedance ..... 47 kohms
Output impedance ..... 470 ohms

General

Power consumption ..... 20 W
Dimensions ..... W: 440 mm (17-5/16")
H: 97 mm (3-13/16")
D: 266 mm (10-1/2")
Weight ..... 3.6 kg (7.9 lb)

Note:
Kenwood follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

Note :
Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on, the Europe (E) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

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KENWOOD ELECTRONICS BENELUX N.V.
Mechelsesteenweg 418 B-1930 Zaventem, Belgium
KENWOOD ELECTRONICS DEUTSCHLAND GMBH
Rembrücker-Str. 15, 6056 Heusenstamm, West Germany
TRIO-KENWOOD FRANCE S.A.
13 Boulevard Ney, 75018 Paris, France
KENWOOD LINEAR S.p.A.
20125, MILANO-VIA ARBE, 50, ITALY
KENWOOD ELECTRONICS AUSTRALIA PTY. LTD. (INCORPORATED IN N.S.W.)
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KENWOOD & LEE ELECTRONICS, LTD.
Wang Kee Building, 4th Floor, 34-37, Connaught Road, Central, Hong Kong